

10593111

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 October 2005 (20.10.2005)

PCT

(10) International Publication Number
WO 2005/097878 A1

- (51) International Patent Classification⁷: C08J 9/10, 9/12 (74) Agent: COHN, Gary, C.; Gary C. Cohn PLLC, 1147 N.4th St., Unit 6E, Philadelphia, PA 19123 (US).
- (21) International Application Number: PCT/US2005/009892 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SI, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 24 March 2005 (24.03.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/556,646 26 March 2004 (26.03.2004) US
- (71) Applicant (for all designated States except US): NATUREWORKS LLC [US/US]; 15305 Minnetonka Blvd., Minnetonka, MN 55345 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CINK, Kevin [US/US]; 9709 Evergreen Circle North, Brooklyn Park, MN 55443 (US). SMITH, Jeffery, C. [US/US]; 10077 Raleigh Court, Woodbury, MN 55129 (US). NANGERONI, James [US/US]; 16 Charter Circle, Doylestown, PA 18901 (US). RANDALL, Jed, Richard [US/US]; 3026 - 39th Avenue South, Minneapolis, MN 55406 (US).
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/097878 A1

(54) Title: EXTRUDED POLYLACTIDE FOAMS BLOWN WITH CARBON DIOXIDE

(57) Abstract: This invention provides a process for extruding a PLA resin using high levels of CO₂. Excellent quality, low density foam is produced easily and reproducibly. The foams are capable of being heat-annealed to induce significant crystallinity, even when an ordinarily amorphous PLA resin is used.